

vertically. That is, one out of every 8×8 or 64 pixels is used to compute the grey value for the gamma determination. This can be adjusted using the Skip Pixels option. There are settings for 1, 2, 4, 8, and 16 pixels. When set to 1, every pixel on the screen is read.

[0115] The calculated gamma response, for instance, can be affected by a lookup table. This is a table of, say, 256 floating point values, normally in the range 1.0 to about 2.3, that can adjust the brightness of each subpixel or group of subpixels in a single area or multiple areas in response to a measured value. The table can be edited by changing the text file named "gamlut.txt" which could be located in the same directory as the application. If "Use gamma lut" is checked in the application (as illustrated), then the adjusted brightness is run through the gamma lut table to produce a floating point value which is output to the device gamma table. For example if the adjusted brightness is 125 and a certain gridpoint location, and the gamma lut contains the value 1.5 at location 125, then a gamma 1.5 table is computed and the windows display device is updated. Unchecking "Use gamma lut" in the application (as illustrated) would set a gamma of 1.0.

[0116] The brightness and gamma lookup tables are reloaded from their text files at the time the Start button is pressed. This makes it more convenient to change the luts and see the effect. The files must each contain 256 values separated by carriage return and line feed (CR LF, or the Enter key).

[0117] To edit the lookup tables, one can use any text editor such as Notepad, or even Microsoft Excel. For example, the original values might read:

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[0118] 0
[0119] 1
[0120] 2
[0121] ...
[0122] 254
[0123] 255
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[0124] In order to obtain a gain of, for instance, 2×, the operator would modify the table to read:

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[0125] 2
[0126] 3
[0127] 4
[0128] ...
[0129] 254
[0130] 255
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[0131] A library of similar algorithms for the other parameters such as colour temperature, brightness, etc. can be available for a user to perform modifications to them in selected portions of the image.

[0132] Aspects of the present invention have been described by way of example only and it should be appreciated that modifications and additions may be made thereto without departing from the scope thereof.

What we claim is:

1. A method of controlling brightness, colour, hue, colour temperature, gamma response or contrast of at least one image for display on a multi layer display device characterised by carrying out the steps of:

- i) receiving said at least one image(s) to be displayed,
- ii) detecting the brightness, colour, hue, colour temperature, gamma response or contrast of said image(s) to be displayed,
- iii) determining the transmissivity of each layer of the multi layer display device in the localised area of said image(s) to achieve the brightness, colour, hue, colour temperature, gamma response and/or contrast detected or received,
- iv) communicating the determined transmissivity of each layer of the multi layer display device in the localised area of said (images) to a display device or storage device.

2. A method of controlling brightness, colour, hue, colour temperature, gamma response or contrast of at least one image for display on a multi layer display device characterised by carrying out the steps of:

- i) receiving said at least one image(s) to be displayed,
- ii) detecting the brightness, colour, hue, colour temperature, gamma response or contrast of said image(s) to be displayed,
- iii) determining the transmissivity of each of the non-display layers of the multi layer display device in the localised area of said image(s) to achieve the brightness, colour, hue, colour temperature, gamma response and/or contrast detected or received,
- iv) communicating the determined transmissivity of the non-display layers of the multi layer display device in the localised area of said (images) to a display device or storage device.

3. A method of controlling the brightness, colour, hue, colour temperature, gamma response or contrast of at least one image to be displayed in combination as claimed either of claims 1 or 2.

4. A method of controlling the contrast of at least one image to be displayed utilising the method as claimed in either claim 1 or 2 while brightness is maintained utilising the method claimed in either claim 1 or 2 such that net brightness perceived of the image(s) is maintained despite the change to contrast.

5. A device implemented to carry out any of claims 1 to 4.

6. A display comprising of;

- i) at least one display device which is (are) at least in part selectively transparent upon which at least one image is displayed;
- ii) and a backlighting system which illuminates said image(s);
- iii) and at least one transmissivity control device that selectively controls the transmission of light from said backlight to the viewer in the localised area of said image(s).